

**Notice of Allowability**

Application No.

10/726,515

Examiner

Geoffrey Mruk

Applicant(s)

SONG ET AL.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the arguments dated 9 February 2006.
2. ☒ The allowed claim(s) is/are 1-11, 38 and 39.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**STEPHEN MEIER**  
**SUPERVISORY PATENT EXAMINER**

## **DETAILED ACTION**

### ***Drawings***

The drawings dated 4 December 2003 are accepted.

## **REASONS FOR ALLOWANCE**

The following is an examiner's statement of reasons for allowance: The primary reasons for allowance for claims 1-11 is that applicant's claimed invention includes a monolithic ink-jet printhead having a substrate having an ink chamber to be supplied with ink to be ejected, a manifold for supplying ink to the ink chamber, and an ink channel for providing communication between the ink chamber and the manifold; a nozzle plate including a plurality of passivation layers sequentially stacked on the substrate, a metal layer formed on the plurality of passivation layers, and a nozzle, through which ink is ejected from the ink chamber, that penetrates the nozzle plate; a heater provided between adjacent passivation layers of the plurality of passivation layers, the heater being located above the ink chamber for heating ink within the ink chamber; a conductor provided between adjacent passivation layers of the plurality of passivation layers, the conductor being electrically connected to the heater for applying a current to the heater; and a hydrophobic coating layer formed directly and exclusively on an outer surface of the metal layer. It is this limitation, expressed in the claimed combination not found, taught, or suggested in the prior art that makes these claims allowable over the prior art.

The primary reasons for allowance for claims 38 and 39 is that applicant's claimed invention includes a an ink-jet printhead, having a nozzle; an ink chamber disposed below the nozzle, the ink chamber having an inlet and an outlet, the outlet in communication with the nozzle; a heater disposed directly above and proximate to the ink chamber, the heater configured to heat ink in the ink chamber, and a plurality of layers disposed on the heater, the plurality of layers including, in sequence: an insulation layer disposed on the heater and directly above the heater; a first metal layer disposed on the insulation layer and directly above the heater; a second metal layer disposed on the first metal layer and directly above the heater; and a hydrophobic layer disposed on the second metal layer and directly above the heater. It is this limitation, expressed in the claimed combination not found, taught, or suggested in the prior art that makes these claims allowable over the prior art.

The examiner makes of record that the previous claim objections dated 14 November 2005 are withdrawn in view of applicant's arguments.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is 571 272-2810. The examiner can normally be reached on 7am - 330pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GSM  
4/21/2006

GM



**STEPHEN MEIER**  
**SUPERVISORY PATENT EXAMINER**